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The False Longhorn Beetles (Stenotrachelidae) of Virginia (Coleoptera)

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ABSTRACT

The family Stenotrachelidae is represented in Virginia by two species, *Cephaloon lepturides* Newman and *C. ungulare* LeConte. The latter species is recorded in Virginia for the first time.

Key words: *Cephaloon*, Coleoptera, Grayson Highlands State Park, new state record, Shenandoah National Park, saproxylic, Stenotrachelidae, Virginia.

INTRODUCTION

The Stenotrachelidae (formerly Cephaloidae) is a small family of tenebrionoid beetles with 19 species distributed throughout the Holarctic region (Lawrence & Slipinski, 2010). Of the 10 species and four genera known in North America, five species occur east of the Mississippi River (Young, 2002). In eastern North America, species in the genera *Anelpistus*, *Nematoplus*, and *Stenotrachelus* do not occur farther south than the higher elevations of the Adirondacks and are unlikely to occur in Virginia. *Cephaloon* includes six North American species, two of which occur in eastern North America (*C. lepturides* Newman and *C. ungulare* LeConte), including Virginia; two additional species are found in the eastern Palearctic (Arnett, 1953). All of the species in this genus are slender, leggy, and somewhat broad-shouldered beetles that resemble lepturine cerambycids, resulting in the common name "false longhorn beetles."

British entomologist Edward Newman (1838) described the type species, *C. lepturides*, from a single specimen collected at Trenton Falls, New York. Since its description, *Cephaloon* has been placed in the families Oedemeridae and Melandryidae by various authors. LeConte (1862) initially thought that they were meloids, but decided to place them in an entirely new family, the Cephaloidae. This family name was eventually replaced by Stenotrachelidae on the basis of priority (Silfverberg, 1990).

METHODS

This study is based on my own field work, literature records, and the examination of specimens housed in the following collections: Department of Recent Invertebrates, Virginia Museum of Natural History, Martinsville, Virginia (VMNH); Department of Entomology, National Museum of Natural History, Smithsonian Institution, Washington, DC (USNM); George Washington Memorial Parkway, Turkey Run Park, McLean, Virginia (GWMP); Shenandoah National Park, Luray, Virginia (SNPC); Bull Run Mountains Conservancy, The Plains, Virginia (BRMC); Arthur V. Evans, Richmond, Virginia (AVEC).

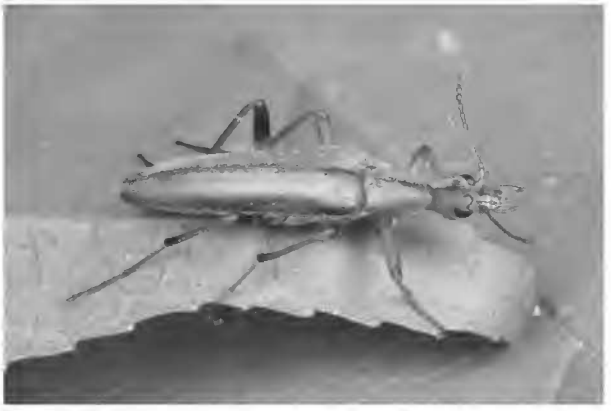


Fig. 1. *Cephaloon lepturides* Newman. Shamokin Nature Preserve, Wintergreen, Virginia. © 2009, Arthur V. Evans.

RESULTS AND DISCUSSION

Virginia species of *Cephaloon* (7.5-14.0 mm) are elongate and uniformly yellowish-brown (sometimes with elytral margins darker), brownish-black with paler appendages, or bicolorous with elytra, abdomen, metathorax brownish-black and remaining body and appendages yellowish-brown. The head, pronotum, and appendages are variably marked with diffuse brownish patches. *Cephaloon* is distinguished from all other Virginia beetle genera by having a diamond-shaped head that is narrowed gradually behind the distinctly notched eyes, a distinct neck, and prognathous mouthparts. There are 11 antennomeres. The prothorax appears bell-shaped when viewed from above and becomes narrower toward the head, has rounded sides lacking a sharp margin that separates the upper and lower surfaces, and possesses procoxal cavities that open posteriorly. The elytra are gradually narrowed toward their tips, vaguely ridged and irregularly punctate, and completely cover the abdomen. The legs are long and slender, and have a tarsal formula of 5-5-4. The tarsomeres are uniformly slender, lack pads underneath, and are tipped with pectinate claws accompanied by a membranous lobe underneath. The underside of the abdomen has five segments visible with posterior margin of fifth segment distinctly emarginate (males) or not (females).

Stentotrachelids are relatively rare in collections. The short-lived adults are seldom collected in numbers and thought to feed on pollen. They are typically found in Virginia during late spring resting on flowers or vegetation during the day in montane deciduous and coniferous forests. They are collected by hand, or by sweeping and beating vegetation. Individuals are also attracted to lights at night or captured in Malaise and flight intercept traps. The larva of *C. ungulare* is depicted in Lawrence (1991), while that of *C. lepturides* is figured in Böving & Craighead (1931) and Peterson (1951). The larvae of *C. ungulare* develop in decaying conifer logs infected with brown rot (Lawrence, 1991).

Adults of both species of *Cephaloon* are quite variable in size and color, but are reliably distinguished from one another by the characters in the key below.

Key to the Adult *Cephaloon* of Virginia

Ventral lobe of tarsal claws robust, rounded at tips (Fig. 2a); lateral margins of prothorax distinctly undulate before posterior angles (Fig. 2b); head subequal in length to pronotum (Fig. 2b); antennae reach to basal quarter of elytra, antennomeres 9-10 short and triangular, 11 obovate..... ..... *Cephaloon lepturides* Newman

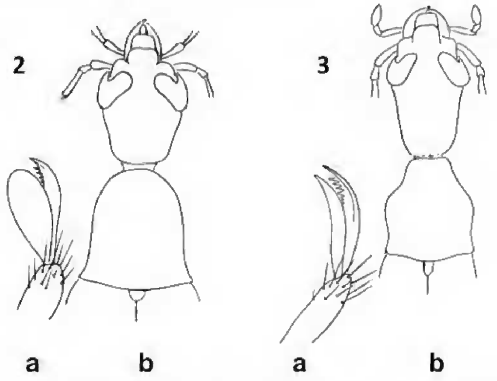
Ventral lobe of tarsal claws slender, curved at tips (Fig. 3a); lateral margins of prothorax virtually straight before posterior angles (Fig. 3b); head longer than pronotum (Fig. 3b); antennae nearly reach mid point of elytra, antennomeres 9-11 filiform ..... *Cephaloon ungulare* LeConte

Cephaloon lepturides Newman

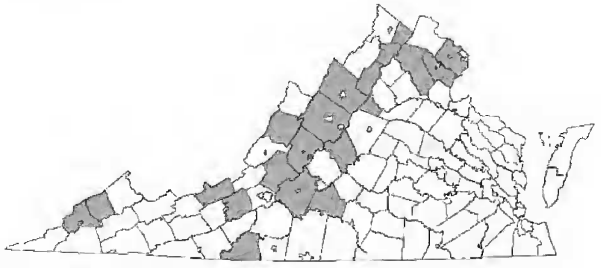
(Figs. 1, 2; map 1)

This species occurs in eastern North America from the Maritime Provinces to Georgia, west to Minnesota and West Virginia. **United States:** Connecticut, Georgia, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, and Wisconsin. **Canada:** New Brunswick, Nova Scotia, Ontario, Prince Edward Island, and Quebec. (Arnett, 1953; Majka, 2011).

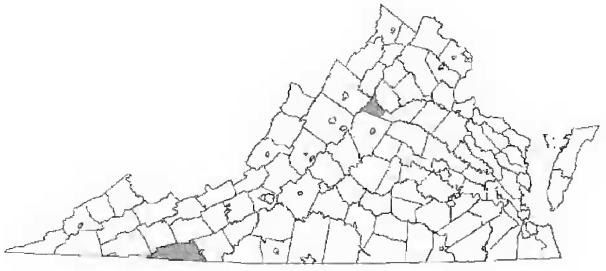
In Virginia, *C. lepturides* has been found during the months of May and June in the following counties: Augusta, Bath, Bedford, Botetourt, Campbell, Clarke, Dickenson, Fairfax, Fauquier, Giles, Greene, Montgomery, Nelson, Page, Patrick, Prince William, Rockbridge, Rockingham, Warren, and Wise. (AVEC, BRMC, SNPC, USNM, VMNH)



Figs. 2-3. 2. *Cephaloon lepturides* Newman. a. Claw with robust membranous lobe rounded at tip. b. Head and pronotum. 3. *Cephaloon ungulate* LeConte. a. Claw with narrow membranous lobe curved at tip. b. Head and pronotum.



Map 1. County distribution of *Cephaloon lepturides* Newman based on specimens examined from Virginia.



Map 2. County distribution of *Cephaloon ungulare* LeConte based on specimens examined from Virginia.

Cephaloon ungulare LeConte
(Fig. 3; map 2)
NEW STATE RECORD

This species occurs in eastern North America from Labrador and the Maritime Provinces to South Carolina, west to Ontario and Tennessee. **United States:** Maine, Maryland, New Hampshire, New York, North Carolina, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia. **Canada:** Labrador, Newfoundland, Nova Scotia, Ontario, Prince Edward Island, and Quebec (Arnett, 1953; Majka, 2011).

Cephaloon ungulare is restricted in Virginia to the higher elevations of the Blue Ridge Mountains and is known from the following localities: **Grayson Co.:** Grayson Highlands State Park, drift fence site 1, 19 May-2 June 1991, VMNH survey (1); White Top Mtn., drift fence site off FS 89, 5000', 11-25 June 1993, beech woods, VMNH survey (1); Mt. Rogers, 15 July 1971, Turner (1). **Greene Co.:** Shenandoah National Park, Upper Devils Ditch, rock outcrop, elev. 3421', 8-9 June 2005, uv, A.C. Chazal and C.S. Hobson (1); same data, except elev. 3189' (1). (SNPC, VMNH)

Little is known about the biology of *Cephaloon*. Their montane distribution and the saproxylic preferences of the larvae suggest their possible use as biological indicator species in Virginia. Populations of saproxylic beetles are significantly related to parameters of forest structure and health (Majka & Pollock, 2006). The impacts of current forest management practices on these and other saproxylic tenebrionoid beetles (Tetratomidae, Melandryidae, Synchroidae, and Scraptiidae), especially those that reduce coarse woody debris and fragment old growth forests in the Blue Ridge Mountains and Cumberland Plateau, are poorly understood and require further study.

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